

of the double arrow " θ_2 " by using a non-illustrated motor therein. Similarly, the joint 33 is fixed to the end portion of the arm 35b and angularly moves the arm 35c in the direction of the double arrow
5 " θ_3 " by using a non-illustrated motor therein; and the joint 34 is fixed to the end portion of the arm 35c and angularly moves the entire grasping mechanism 36 in the direction of the double arrow " θ_4 " by using a non-illustrated motor therein.

10 The grasping mechanism 36 comprises a pair of finger members 36a and 36b that are tongs that can cooperatively grasp commodities 81 arranged on the commodity shelf 80. The finger members 36a and 36b are driven by a non-illustrated driving motor
15 in such a manner that the finger members 36a and 36b open and close.

Since the manipulator controller 15A and the driving motor 15a controls the non-illustrated motors equipped with the linear-motion rails 22a,
20 22b and 22c and the operating end of the manipulator 30A grasp and movement operations with respect to commodities 81, which operations are performed by the manipulator 30A (the grasping member 36), are remotely controlled.

25 Close positioning of the TV camera 20A and the manipulator 30A allows an inventory employee at a remote place from the shop to precisely operate

the remote manipulator 30A because the inventory employee recognizes relative positioning between the object commodity and the operating end of the manipulator 30A (especially the grasping mechanism 36) with reference to images taken by the TV camera 20A.

In the illustrated embodiment, it is possible for an inventory employee to remotely manipulate the posture and the position of the commodity 81 using the manipulator controller 15A, the motor driver 15a and the manipulator 30A as required by transmitting instructions to the shop (the control computer 10A) from the inventory computer 50A or 50B, or the mobile information terminal 50C.

When an inventory employee cannot see an object commodity on the management display 53A, 53B or 53C of the inventory computer 50A or 50B, or the mobile information terminal 50C due to the object commodity being behind other commodities or for other reasons, the inventory employee remotely manipulates the manipulator 30A to move the other commodities in such a manner that the object commodity appears on the management display 53A, 53B, or 53C.

When an inventory employee cannot see the expiration date of an object commodity, which is marked on the package of the object commodity

displayed on the management display 53A, 53B or 53C,
the inventory employee remotely manipulates the
manipulator 30A to change the posture of the object
commodity in such a manner that the expiration date
5 of the object commodity appears on the management
display 53A, 53B, or 53C.

With the manipulator 30A, the manipulator
controller 15A and the driving motor 15a, it is
possible to surely make an inventory of the object
10 commodities (especially, to manage the expiration
dates of perishable foods) stocked at a shop based
on the obtained images, thereby saving labor of the
staff members (clerks) at the shop.

In general, the manipulator 30A needs four
15 to five degrees of freedom; however some shapes and
materials of commodities may be handled by a simpler
manipulator with fewer degrees of freedom.

(A-6) Description of commodity position
database:

20 The commodity position database 14A in the
tele-inventory system 100 (the control computer 10A)
will be now described with reference to FIG. 6.

As shown in FIG. 6, the commodity position
database 14A stores commodity information about a
25 correlation between the individual object commodity
(a commodity name) that is disposed at a selling
area and a position of the TV camera 20A, which